

REMARKS

In an Office Action dated February 21, 2003, claims 1-12, all of the claims under consideration in the subject patent application, were rejected. By amendment above, claims 1-8 have been rewritten and new claims 13-21 have been added. Support for the amendments in claim 1 can be found in original claim 2. Support for the amendments in claims 2-6 can be found in the original claims and support for the amendments in claims 7 and 8 can be found in original claims 1 and 2 and on page 16, line 9 - page 17, line 19. Support for new claims 13-19 can be found in original claims 1 - 8 and on page 7 line 25 - page 8, line 6; page 10, lines 12-21; page 11, lines 19-27; page 12, lines 18-23; page 14, lines 10-26; page 15, lines 1-10 and page 16, line 9- page 17, line 19. Support for new claims 20 and 21 can be found in original claims 1 and 2 and on page 7, line 25 - page 8, line 6.

Reconsideration of this application and allowance of the claims is respectfully requested in view of the foregoing amendments and the following remarks.

Claims 7 and 8 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as his invention. According to the Examiner claim 7 recites the limitations "crosslinker", "polymers having crosslinkable functional groups", and "phenol novolak epoxy resin curing agent containing triazine rings" in the resin compound set forth in claim 1 for which limitations there is insufficient antecedent basis. The Examiner asserts that this claim should depend on the resin compound set forth in claim 2. Claim 8 is rejected because of its dependency on claim 7. Applicants submit that claim 7 has been amended into an independent claim providing the

antecedent basis for all the claim limitations. Therefore, applicants submit that claims 7 and 8 are defined more clearly and withdrawal of the rejection is respectfully requested.

The Examiner in the Office Action dated February 21, 2003 also indicated that claims 1-12 are written in manner that can be interpreted various ways. The Examiner kindly suggests claim language for claims 1-8 as indicated in the Office Action. Applicants have amended claims 1-8 taking in consideration the suggested claim language from the Examiner to present the current invention in a clear and precise fashion.

Claims 1, and 9-12 were rejected under 35 U.S.C. § 102(b) as being anticipated by Ito et al (US Patent 5,932,637). The Examiner asserts that Ito et al discloses a resin composition used for fabricating an interlayer dielectric wiring board, wherein the resin composition is formed by dissolving a resin composition in an organic solvent. The resin composition comprises an epoxy based resin, wherein said epoxy based resin comprises an epoxy resin, a nitrogen-containing epoxy resin curing agent and maleimide compounds having thermosetting properties, wherein the nitrogen content constitutes 5-25 wt% of the entire epoxy based resin. The epoxy based resin is free of halogen elements. According to the Examiner all elements of claim 1 are therefore disclosed in Ito et al, thereby anticipating claim 1 of the present invention. Applicants disagree with the assertion of the Examiner that the nitrogen content disclosed in Ito et al is 5-25 wt% of the entire epoxy based resin. According to applicant's reading of Ito et al the nitrogen content disclosed is in the range of 2-10 wt% of the entire resin. However, the range of 5-25 wt% in claim 1, as amended, is directed solely to the content of nitrogen in the epoxy resin curing agent.

Therefore, the Examiner has not established that the nitrogen content range disclosed in Ito et al covers the range in present claim 1, as amended.

The Examiner rejects claims 9-12 as these are dependent on claim 1, which according to the Examiner, is anticipated by Ito et al. The resulting products in claims 9-12 are therefore also considered to be anticipated.

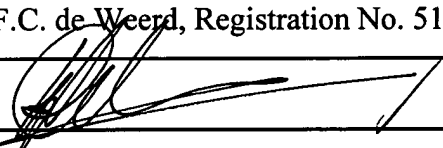
Applicants submit that claim 1, as amended, incorporates the claim limitation from claim 2 directed to a resin composition which further comprises polymers having crosslinkable functional groups within a molecule which the Examiner has deemed to confer allowable subject matter in claim 2. The Examiner, in the Office Action dated February 21, 2003 determined that Ito et al fail to disclose epoxy resin compounds which further comprise polymers having crosslinkable functional groups within a molecule. Therefore, applicants submit that claim 1, as amended, requires the resin composition to include polymers having crosslinkable groups and thus Ito et al does not anticipate the claimed invention, as it lacks an essential element of the currently claimed invention. In addition, claims 9-12 are not anticipated by Ito et al by virtue of their dependency on claim 1. Furthermore, applicants submit that claims 2-8, as amended, are not anticipated by Ito et al as these claims are dependent from claim 1, as amended, and are further directed to subject matter which the Examiner deemed allowable.

Applicants respectfully submits that the claimed invention in claims 1, and 9-12, as amended, is novel over Ito et al (US 5,932,637). Withdrawal of the rejection is respectfully requested.

The Examiner has indicated that claims 2-6 contain allowable subject matter, but are objected to as these claims are dependent from rejected claim 1. Similarly claims 7 and 8 contain allowable subject matter. It is the Examiner's suggestion to amend claim 2 to an independent claim from which claims 3-8 are dependent. Applicants have added new claims 13-19 which claims are directed to the same subject matter as claimed in the previous claims 2-8 which the Examiner deemed to be allowable but were objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claim 13, as an independent claim, is directed to the same subject matter as original claim 2. Claims 14-19 are dependent on claim 13. Applicants, therefore submit that claims 13-19 are in condition for allowance as the claims are the same as claims 2-8 and further have been rewritten in independent form including all of the limitations of claim 1.

Applicants submits that the present application is now in condition for allowance.

Reconsideration and favorable action are earnestly requested.

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Amended Claims 1 - 8: Version with markings to show changes made

1. (Amended) A resin composition [compound] used for fabricating an interlayer dielectric of a printed wiring board, wherein said composition comprises; a) [wherein the resin compound has a composition comprising] an epoxy based resin; b) [which includes] an epoxy resin curing agent containing 5 to 25% by weight [of] nitrogen; c) [and] maleimide compounds [which have] having thermosetting properties; d) polymers having crosslinkable functional groups within a molecule; and e) a crosslinker, which is added if necessary, wherein said resin composition is [and being] free of halogen [elements, and that the resin compound is formed by dissolving the composition in an organic solvent].

2. (Amended) The resin composition [compound] used for fabricating an [the] interlayer dielectric of the printed wiring board according to [as set forth in] claim 1, wherein said [the] epoxy based resin comprises epoxy resins having two or more glycidyl groups per molecule [and polymers having crosslinkable functional groups within a molecule and a crosslinker which is added as necessary], and said epoxy resin curing agent comprises a phenol novolak epoxy resin curing agent containing triazine rings within a molecule.

3. (Amended) The resin composition [compound] used for fabricating an [the] interlayer dielectric of the printed wiring board according to [as set forth in] claim 1 [2], wherein said [the] epoxy based resin [having two or more glycidyl groups per molecule are free of halogen elements and] is selected from the group consisting [are one or more] of bisphenol A epoxy resin,

bisphenol F epoxy resin, novolak epoxy resin, cresol novolak epoxy resin, [and] glycidylamine epoxy resin, and combinations thereof.

4. (Twice Amended) The resin composition [compound] used for fabricating an [the] interlayer dielectric of the printed wiring board according to [as set forth in] claim 1 [2], wherein said [the] polymers having crosslinkable functional groups [within a molecule] are selected from the group consisting [are any one or more] of polyether sulfone resin having a terminal hydroxyl group, polyvinyl acetal resin having repeated hydroxyl groups, [and] phenoxy resin, and combinations thereof.

5. (Twice Amended) The resin composition [compound] used for fabricating an [the] interlayer dielectric of the printed wiring board according to [as set forth in] claim 1 [2], wherein said [the novolak] epoxy resin curing agent [containing triazine rings within a molecule] is selected from the group consisting [comprises one or two] of melamine, benzoguanamine, [and] a compound obtained from a condensation reaction of phenols and formaldehydes; and combinations thereof [and has 5 to 25% by weight of nitrogen content].

6. (Twice Amended) The resin composition [compound] used for fabricating an [the] interlayer dielectric of the printed wiring board according to [as set forth in] claim 1 [2], wherein said [the] maleimide compounds [having thermosetting properties] are selected from the group consisting [any one or more] of N,N'-(4,4-diphenylmethane)bismaleimide; bis(3-ethyl-5-methyl-4-maleimidephenyl)methane; 2,2-bis[4-(4-maleimidephenoxy)phenyl]propane; [and]

thermosetting maleimide compounds obtained from Michael addition reaction of these maleimide compounds and polyamines; and combinations thereof.

7. (Twice Amended) A method for producing a [the] resin composition [compound] used for fabricating an [the] interlayer dielectric of the printed wiring board [as set forth in claim 1], wherein said [a] resin composition is added to and dissolved in the solvent to a solids content of 40 to 50 % by weight, wherein 100 parts of said resin composition comprises: [made to have] 20 to 70 parts by weight of an epoxy based resin[s];[,] 5 to 30 parts by weight of polymers having crosslinkable functional groups within a molecule;[,] 10 to 50 parts by weight of maleimide compounds having thermosetting properties;[,] and [a] balance being a crosslinker added as necessary and a phenol novolak epoxy resin curing agent containing triazine rings within a molecule [given that a total amount of the resin compound excluding a solvent is 100 parts by weight, and that a solids content after the composition is added to and dissolved in the solvent becomes 40-50% by weight].

8. (Amended) A [The] method for producing the resin composition [compound] used for fabricating an [the] interlayer dielectric of the printed wiring board according to [as set forth in] claim 7, wherein the solvent is a mixed solvent of N-methylpyrrolidone and methyl ethyl ketone, the mixing weight ratio of N-methylpyrrolidone/methyl ethyl ketone being in a range of 50/50 to 40/60 [(by weight)].